Project Charter (Version ___2___) Date: __11/17/2010_____

Project Name: *Write out the entire, specific name.*

Groundwater Content Enhancement in California Water Plan Update 2013.

Sponsor/Program Manager	Paul Massera
Project Manager	Abdul Khan

Project Objective Statement: *What must the project do? By When? Keep this statement to 25 words or less. Make it SMART (Specific, Measurable, Achievable, Relevant, and Time-based).*

Expand information about statewide and regional groundwater conditions in California Water Plan Update 2013 to better inform groundwater management actions and policies.

Triple Constraint Trade-off

Resources	S	*Select a different flexibility letter for each constraint* *N= Not Flexible* *S= Somewhat Flexible* *M= Most Flexible*
Schedule	N	
Scope	M	

Estimated Start Date:	7/1/2010	Estimated End Date:	9/30/2013

Project Deliverables: *What is the project going to produce? Create a list of tangible products that will result from project.*

1. Compile, organize, integrate, and report on California's groundwater conditions based on information from existing State and Federal water resource planning activities.
2. Using existing information, provide summary narratives on the groundwater conditions, institutional frameworks, and management activities at the statewide and Regional Report level. Based on available data and information, furnish site specific examples of groundwater conditions and management activities at the groundwater basin level, including the identification of groundwater problem areas.
3. Identify data gaps for the State's groundwater basins and provide recommendations for future data collection efforts.
4. Quantify and report on change in groundwater storage for each planning area/groundwater basin.
5. Case Studies: In groundwater basins with sufficient data, existing analysis, and application of effective management strategies, present Case Studies including detailed groundwater budget that demonstrate the benefits associated with the collection and application of groundwater data, and the integration of local and regional water management strategies. Case Studies will also help identify what resources management strategies are working, and most beneficial, within various regions of the state.
6. Identify and inventory opportunities for conjunctive management of groundwater and other supplies including recharge zones prioritization, and promote the development of multi-benefit projects that generate source water for groundwater storage.
7. Identify and inventory opportunities for groundwater banking and integrated flood management.
8. Develop preliminary sustainability indicators for both groundwater quantity and quality.

Strategic Fit: *What is the Strategic Initiative Identifier for this project?*

- Supports Water Supply and Balance Team of the Water Plan Update in their work.
- Supports California's Groundwater (Bulletin 118).
- Supports resource management strategies such as conjunctive management and groundwater storage; groundwater and aquifer remediation, recharge areas protection; flood risk management; and pollution prevention at the regional level.
- Develops and supports recommendations of the Water Plan Update.
- Provides linkages to regional reports of the Water Plan Update.

Customer: *Who are you doing the project for?*

Primary Customers:

- State Agencies:
  - DWR.

  - State Water Resources Control Board (State Board).
  - California Public Utilities Commission (CPUC).
  - California Governor's Office.
- Local agencies and regional water planning & management entities/groups.
- California Legislature.
- American Indian Tribes of California.
- Groundwater experts working on groundwater issues in the state.
- Association of California Water Users (ACWA).
- Groundwater Resources Association of California (GRA).

Other Stakeholders:

- Water Plan Public Advisory Committee (PAC).
- State Water Analysis Network (SWAN).
- Water Plan State Agency Steering Committee.
- Federal Agencies.
  - U. S. Geological Survey (USGS).
  - U.S. Bureau of Reclamation (Reclamation).
  - U.S. Army Corps of Engineers (USACE).
- General public and individual groundwater users.

Customer Benefits: *What customer requirements does this project address? Relate these to: increase revenue, avoid costs, improve service, and/ or comply with a mandate? Create a short list of customer benefits.*

- Provides access to consolidated groundwater information from various State and federal water resource planning initiatives in a single document
- Furnishes the status of regional groundwater conditions, management activities, and problem areas to help identify data gaps to better inform future groundwater monitoring needs and activities.
- Provides useful templates for local and regional management of groundwater resources through illustrative Case Studies.
- Helps improve groundwater management by providing access to better quantitative information about groundwater resources; change in storage; opportunities for conjunctive management, groundwater banking and integrated flood management; and groundwater overdraft, quality, and sustainability.
- Highlights policy needs for the state's groundwater planning and management.

Successful Completion Criteria: *How will the success of the project be determined from the customer's perspective? Make criteria measurable so there is no doubt as to the project's success. Create a short list.*

- Percentage of groundwater basins for which quantification of storage is completed.
- Number of State planning initiatives from which information has been integrated into the Water Plan.
- Number of water managers outside the Water Plan working with the Water Plan to help improve the groundwater content.
- Number of comments received on the groundwater content.
- Positive survey results from members of the Water Plan Advisory Committee, Regional Forums, and Groundwater Caucus.
- Number of entities outside the Water Plan using groundwater information generated by the Water Plan.
- Number of citations of the Water Plan groundwater component made in other studies within and outside DWR.

Project Background: *What is the primary motivation for this project? Include a brief high level description of the business area, the current situation, the desired situation, and the gaps that exist. This summary builds on your description in the Project Initiation form.*

As part of the Water Plan Updates 2005 and 2009 processes, advisory committee members as well as other water stakeholders highlighted the need to have access to better information about California's groundwater conditions. For example, the 1-2 million acre-feet of annual groundwater overdraft that is mentioned in both Updates 2005 and 2009 have been questioned for lack of rigorous analysis and associated documentation. Water Plan Update 2009, as Update 2005, provided limited quantitative information about groundwater resources in the Water Portfolios developed as part of the Updates. Changes in groundwater storage estimates in Update 2009 do not adequately characterize actual storage conditions

because these estimates reflect net groundwater uses for many areas of the state. As a result, there is a great need to improve our understanding and quantification of groundwater resources in California. Without reliable data and analysis on groundwater, the state's goal to better manage the resource will likely remain unattainable. In the absence of data and analysis, also ineffectual will be the state's goal of increasing conjunctive management of groundwater with other water supplies as part and parcel of Integrated Regional Water Management (IRWM) programs and projects.

Of note is that the most current update of California's Groundwater (Bulletin 118, published in 2003) provided only minimal quantitative information about California's groundwater conditions for the 10 different hydrologic regions of the state. Quantitative information was limited to basic well statistics, well yields, and supply well water quality. Because of resource and schedule constraints, there was no attempt to compile data in an adequate manner and conduct analysis to capture change in groundwater storage or furnish detailed groundwater budget for any of the groundwater basins or DWR planning areas.

Another issue of concern is how to address long-term sustainability of groundwater from a quantity and a quality perspective. The major impediment, again, is lack of data to undertake the appropriate analysis to assess sustainability of the resource through the development and on-going tracking of a set of relevant sustainability indicators.

Update 2013 will confront the issue of lack of groundwater data directly with the vision of achieving a set of short-term goals, while keeping in the view a broader set of long-terms goals to be attained in future Water Plan Updates beyond 2013. The major short-term goals are: quantification of change in storage, identification of data gaps, integration of information among various State and federal initiatives, and Case Studies to illustrate utility of groundwater information for local resource management. The most critical long-term goal is to develop detailed groundwater budget for groundwater basins/planning areas.

Project Scope:

In Scope: *List areas and functionality included in project.*	Out of Scope: *List areas and functionality <u>not</u> included in project.*
• Integration of groundwater information from various State and federal planning activities; narratives on regional groundwater conditions and management activities; quantification of change in groundwater storage; and identification of data gaps. • Case Studies with detailed groundwater budget for selected groundwater basins. • Identification of opportunities for conjunctive management, groundwater banking, and integrated flood management. • Preliminary sustainability indicators for groundwater quantity and quality.	• Additional investigation or data collection. • Detailed and comprehensive groundwater budgets for all planning areas, basins, or subbasins in the state. • Detailed analysis of groundwater quality conditions. • A detailed analysis of the rate and volume of groundwater extraction by planning area, basin, or subbasin. • A detailed evaluation of groundwater overdraft conditions by planning area, basin, or subbasin. • Evaluation of subsidence potential of a planning area, basin, or subbasin. • An extensive and detailed analysis on sustainability indicators for groundwater quantity and quality.

Dependent Projects: *What projects must be underway or completed before this project can be successful?*

Dependent Projects:

- Water Plan Update 2013 Water Supply and Balance Team work, "Change in Groundwater Storage Component."
- California's Groundwater (Bulletin 118).
- California Statewide Groundwater Elevation Monitoring (CASGEM) program created by Groundwater Level Monitoring (SBx7-6).
- Statewide Integrated Flood Planning.
- DWR California Central Valley Groundwater-Surface Water Model (C2VSIM).
- State Board's Groundwater Ambient Monitoring & Assessment (GAMA) Program.
- USGS Central Valley Hydrologic Model (CVHM), California's Central Valley Groundwater Study.
- Central Valley Regional Water Quality Control Board (CVRWQCB) Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS).
- Water Data Library (WDL).

Related Projects:

- Regional partnership program through IRWM (Prop 84, Prop 50).
- FloodSAFE Flood Management Initiative
- Bay Delta Conservation Plan (BDCP).
- Sacramento Valley Water Management Program (SVWMP).
- Water Transfers Program.
- Drought Program.

Risks: *What characteristics or situations could cause this project to fail? Identify those items which are outside the jurisdiction of project and could result in a "show-stopper" to the project success. Create a short list.*

- Limited data (the amount of information available is generally greatest in northern California and tends to be more limited to the south except the adjudicated basins in the south).
- Political sensitivity associated with the use of and access to groundwater data.
- Delays associated with data identification, acquisition, evaluation, analysis, and synthesis.
- The continued, focused coordination necessary to facilitate the work done by a large group of staff.
- Departure of key staff.
- Limitations in Water Plan funding that may prevent full project implementation.

Assumptions and Constraints: *What assumptions were made in defining project? Are there constraints to the execution of project? List assumptions and constraints.*

Assumptions:

- Water Plan Program Manager views this project as a high priority.
- Water Plan funding is available to dedicate staff in the Headquarter and the Regional Offices to work on the project.
- Staff in the Headquarter and the Regional Offices is available to work on the project on a priority basis for duration of Water Plan Update 2013.
- No turnover in key staff.

Constraints:

- Concurrent demands on the times of key staff by other projects.

This Project Should Have:

Project Management Plan ☐	PMP will include: *check all that apply*	Work Breakdown Structure ☐	Communications Plan ☐	Procurement Plan ☐	Human Resources Plan ☐
Quality Management Plan ☐	Stakeholder Register ☐	Risk Register ☐	Project Budget ☐	Project Schedule ☐	DWR Form 1498 ☐

Major High-Level Milestone Targets: *What events measure progress? E.g. Initiation Approved, Analysis Complete.*

Milestone	Target Date
Project objectives, deliverables, and resources needs; roles and responsibilities charts to integrate groundwater information from various State and federal initiatives; and roles and responsibilities charts for project deliverables.	12/2010
Project scope with detailed task breakdown, resources needs, and schedule.	02/2011
Document integrating groundwater information from various State and federal planning initiatives.	09/2011
Narrative documents of groundwater conditions and management activities in each Regional Report.	12/2011
Inventories of opportunities for: a) conjunctive management of groundwater and other supplies, and b) groundwater	06/2012

banking and integrated flood management.	
Quantification and report on change in groundwater storage for planning areas/groundwater basins.	09/2012
Draft documentation of groundwater data and analysis for Public Review draft of Water Plan Update 2013.	12/2012
Case Studies including detailed groundwater budget for selected groundwater basins.	04/2013
Preliminary sustainability indicators for groundwater quantity and quality.	06/2013
Documentation of data gaps for the State's groundwater basins.	08/2013
Final documentation of groundwater data and analysis for Water Plan Update 2013.	09/2013

Project Core Team Members

Team Member	Phone/E-mail	Role
Abdul Khan		Project manager
Dan McManus		Co-lead
DWR Northern Regional Office staff		Technical support
DWR North Central Regional Office staff		Technical support
DWR Southern Regional Office staff		Technical support
DWR South Central Reg. Office staff		Technical support
DWR Headquarter Office staff		Technical support
DWR Bay-Delta Office staff		Technical support
Other State Agencies' staff		Coordination

Charter Version Number: 2	
Updated By:	Date:
Approved By:	Date: